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Exposure to Sexually Explicit Materials and Its Association with Sexual Behaviors of Ambo University Undergraduate Students, 2018

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ABSTRACT

BACKGROUND: ***Among the number of reasons that expose the youth to reproductive health risks, lack of adequate information on sexual and reproductive health issues is of prior concern. Given the lack of readily available information about sexual activity to teens, they turn to media for information about sexual norms and may also use the media as a sexual super-peer that encourages them to be sexually active. Therefore, this study was aimed to assess the association between exposure to sexually explicit materials and sexually risky behaviors among undergraduate students of Ambo University, Ethiopia.***

METHODS: ***Institutional based cross-sectional study was conducted among 403 university students in 2018. Study participants were selected by systematic random sampling technique. Self- administered questionnaire was used to collect data. Data were analyzed using SPSS statistical software version 20. Uni-variate, bivariate and multiple logistic regression analyses were done. With 95% CI, the p-value of less than 0.05 was taken as the level of significance.***

RESULTS: ***About 55% and 52% of the university students were exposed to sexually explicit electronic materials throughout their life and in the last 12 months prior to data collection period respectively. Searching for sex information was the top reason for why university students resorted to watching sexually explicit materials. Sexually active students, senior students and male students were more likely to engage in watching sexually explicit electronic materials compared to their counterparts.***

CONCLUSION: ***A high numbers of university students were being exposed to sexually explicit electronic materials for the sake of searching about sexual and related information. This exposure has a significant association with risky sexual behaviors specifically. We highly recommend that university organize awareness creation forum on the area of sexual health, HIV/AIDS and STI, and related matters.***

KEYWORD: ***Sexually explicit materials, risky sexual behaviors, Ambo University***

INTRODUCTION

Sexually explicit materials refers to textual, visual, or audio materials that typically intends to arouse the viewer and depicts sexual activities and (arouses) genitals in unconcealed ways, usually with close-ups on oral, anal, and vaginal penetration (1). The media has a great role in shaping the sexual behaviors i.e. knowledge, attitudes and sexual practices of adolescents and young people which is as important as family, educational institution and friends can be. For instance, a study conducted in three Asian cities of Shanghai, Hanoi, and Taipe amog more than 17,000 adolescents and young adults indicated that about 45-80% of adolescents and youths learnt sex information from the media, specifically the internet (2).

The recent advancement of internet-enabled technologies in African countries has significantly changed the way adolescents/young people encounter and consume sexually explicit materials (3). Safer sex is largely absent in sexually explicit materials. As content analysis of such materials had demonstrated, actors used condoms in only 3% of scenes depicting penile-vaginal intercourse and in only 10% of scenes depicting penile-anal intercourse (1).

Because they are not well mature psychologically, the younger generation faces challenges in selecting positive messages they may get from such media, and they are easily influenced by them. Longitudinal research findings have demonstrated that sexually explicit material (SEM) exposure affects adolescents' sexual attitudes as well as the initiation of sexual behavior. It has also confirmed that adolescents who visit sexually explicit websites were found to have more permissive attitudes toward sexual activity compared with those who have never been exposed. Similarly, frequent consumer of SE materials had permissive attitude towards extra marital sex (2,4,5,6).

Frequent consumption of pornography is associated with many behaviors and attitudes usually regarded as the characteristics of at risk youth. For instance, a study conducted in USA among school adolescents revealed that frequent exposure to sexual content on television predicts early pregnancy (5,7). A cross-sectional study conducted among high school adolescents in eastern part of Ethiopia also indicated that adolescents who were exposed to SE movies were 2 times more likely to engage in risky sexual behavior compared to those who were never exposed (95% CI: 1.12, 3.44) (8). Frequency of internet use for accessing sexual materials was found to be a predictor of being sexually active and of the likelihood of having multiple sexual partners (9).

The other problems related to exposure to sexually explicit material is its association with many risky sexual behaviors like non-condom use (non-consistent condom use), multiple sexual partner, alcohol use during sexual activity and sexual debut at early age (6).

In developing countries like Ethiopia, youths have been disproportionately affected by reproductive health related problems due to their risky behaviors. These health problems are prominent in areas like universities where a large youth population are found (10).

Among the number of reasons that expose youth to reproductive health risks, lack of adequate information on sexual and reproductive health issues is of prior concern. Given the lack of readily available information about sexual activity to teens, they turn to media for information about sexual norms and may also use the media as a sexual super-peer that encourages them to be sexually active. This lets the media play a significant role in molding youth sexual activity (2,8).

Generally, many studies indicated that sexually explicit material exposure is one of the factors for risky sexual behavior. However, almost all of the studies conducted on this area were from western and other Asian countries, and no studies were conducted on the association between exposure to SE material, and each specific risky sexual behavior. Thus, this study intends to fill this gap.

The other significance of this study was university life is definitely different from pre-university life for students. In university, the students are out of family control/super vision, and

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they can be highly influenced by peers. Therefore, this may create conducive environment for them to watch SE materials. Additionally, the availability of free internet (Wi-Fi or cable based) services in university also facilitate consumption of what they desire to access. Thus, the nature of the university students' life mandates to conduct this study. We hope the university youth are the front line beneficiary of this research.

Therefore, the overall objective of this study was to assess exposure to sexually explicit electronic materials and its association with sexual behaviors of Ambo University undergraduate students, 2018.

The following specific questions were addressed:

1. What is the magnitude of exposure to sexually explicit electronic materials among university students?
2. Is there a relationship between exposure to sexually explicit material and sexual risk behaviors of university students?
3. What factors motivate university students to watch sexually explicit electronic materials?

METHODS

Study area and period: The study was conducted in Ambo University, one of the higher Educational Institutions in Ethiopia. Currently, the university has four campuses with a total of 17,789 regular undergraduate students, out of which 10805 were males and 6984 were females. The Campuses of the university were the Main Campus, the Guder Agricultural Campus, Awaro Institute of Technology Campus and Waliso Campus. Students from the nine regional state of Ethiopia and the 2 cities administrations, i.e. Addis Ababa and Dire dawa join the university each year and live in campus. The programmes given by the university range from three years to five years. The study was conducted from January 15-30/2018(11).

Study design: The study design was institutional based cross-sectional.

Study population: The study population was all Ambo University regular undergraduate students who were attending their study programme during data collection period and selected by systematic sampling technique.

Sample size determination: To determine the sample size for this study, outcome variables and various factors significantly associated with the outcome variables were considered. Accordingly, for each specific objective, the sample size was calculated and the larger sample size was used for this study as follows:

The sample size for the first specific objective was calculated with the fallowing factors assumed: level of confidence was 95%, ($Z_{\alpha/2}$) = 1.96**,** marginal error (d) =0.05; since we could not obtain a similar study finding on the magnitude of sexually explicit electronic material in Ethiopia, we assumed single population proportion of (p=0.05) to get the possible maximum sample size. In addition, since the issue under investigation is sensitive, 5% non-respondense rate was added. By adding the 5% non-response rate, the total sample size was 403**.**

Sampling procedure: In order to obtain representative samples for this study, the sample size was proportionally allocated to each of the four campuses of the university. Then, the samples were collected by applying systematic random sampling using the identity number of the university students which we obtained from the university's registrar office. First, the main campus was selected as the first site of data collection. Then, we divide the total eligible study participants (17,789) by 403 and we got a K value of 44. Then, based on the lists of students' identity from main registrar, the other study participants were identified using computer automated methods.

Data collection tools: For data collection, structured questionnaire was prepared based on the reviewed literature and extracting from related studies. The questionnaire was first prepared in English language and then translated into the two common local languages in Ethiopia (Amharaic and Afan Oromo) by two different language experts in the Department of English language and Journalism of Ambo University. Then, the questionnaire was translated back into English by another person of the same department to check its consistent in meaning with first version. The

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questionnaire contains socio-demographic characteristics of the students, history of exposure to sexually explicit materials, sexual behaviors of the students and other related backgrounds.

Data collection procedure: First, the study participants were oriented about the objectives of the study, their rights, benefits and risks of participating in the study. After that, self-administered technique was used using structured questionnaire containing both open-ended and close-ended questions translated into local languages (Amharic and Afan Oromo) for eligible participants. For data collection, data collectors' (first degree holders in statistics) were recruited and trained by the principal investigator. A one-day training was given to them by the principal investigator on the objective of the study, consent taking and data handling methods for data collectors. During field work, Supervision was carried out by the principal and the co-researchers.

Study variables: The outcome variable for this study was exposure to sexually explicit electronic materials. Socio-economic and demographic characteristics such as sex, age, duration of stay in the university, ethnic group, religious group, parents' educational status, income of parents, open discussion on sexual issues with a family member were the independent variables.

Operational definitions

Sexual behaviors- refer to the number of sexual partners, condom use during sexual intercourse, type of sexual intercourse, history of sex with commercial sex workers or a person whom one does not know.

Sexually explicit electronic materials- refer to any video type electronic materials that typically intend to arouse the viewer and depict sexual activities and (arouses) genitals in unconcealed ways, usually with close-ups on oral, anal, and vaginal penetration; could be online or offline accessible types (12).

Exposure to sexually explicit material- relates exposure to at least one of the SE electronic materials visually (by watching) (13).

Risky sexual behaviors- refer to a person who had history of one of the following: history of multiple sexual partners, non-condom use during sexual intercourse, having anal/and oral sex, history of sex with commercial sex workers or a person whom one does not know, alcohol use during sexual intercourse.

Data quality: To ensure the data quality of our study, the following measures were taken. The questionnaire was developed by reviewing relevant literatures on the subject, pre-tested and modified where necessary. Training was also given to data collectors and supervisors. Besides, orientation was given to the study participants on the objective of the study. During field work, each completed questionnaire was checked immediately after it was received from respondents to ascertain that all the questions had been answered consistently.

Data management and analysis: After the collected data was checked for completeness, it was entered into Epi Data Version 3.02 for documentation and cleared for error. After checking for consistency of the entered data, data was exported to SPSS Version 20 statistical software for analysis.

Descriptive statistics: Frequency distribution, median/mean were computed. In order to assess the association between dependent and independent variables, first bi-variate analysis was done. Variables which had association with the dependent variable at p-value<0.25 during bi-variate analysis were included in logistic regression analysis. In addition, variables which were highly associated with the dependent variable from previous studies were also considered to be candidate for multivariable logistic regression. Odd ratio with 95% CI, and level of significance at $p<0.05$ were considered for statistical significance.

Ethical consideration: Ethical clearance was obtained from the Ethical Review Committee of the College of Medicine and Health Sciences, Ambo University. During the field work, the objective of the study was clearly explained for the study participants, confidentiality of the data to be collected and the right not to participate were also assured. Before starting the data collection process, written consent was taken from each

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respondent after they read and signed the consent form.

RESULTS

Socio-demographic and substance use characteristics' of the respondents: Out of the 403 study participants intended to be included in this study, 376 completed the questionnaire, making the respondent rate of 93.3%. The mean age (the data is normally distributed) of the participants was 21.42± (1.94 SD). The majority of the participants were males (68.6%), and in the age of 21-25 (Table 1).

Concerning substance use among, about 28%, 16% and 7% of the respondents had behaviors of drinking alcohol, chewing khat and smoking cigarettes respectively. These behaviors indicate both their past and/or their present status (Table 2).

Table 1: The socio demographic distribution of Ambo University Undergraduate students, 2018

VARIABLES	FREQUENCY	PERCENT (%)
Age		
15-20	151	40.2
21-25	213	56.6
26-30	12	3.2
Sex		
Male	258	68.6
Female	118	31.4
Marital Status		
Never Married	229	60.9
In Formal Marriage	44	11.7
Boy-Girl Friends	96	25.5
Divorced	7	1.9
Student's Batch		
1st	132	35.1
2nd	126	33.5
3rd	111	29.5
4th	7	1.9
Fathers Educational Status		
Unable to read and write	141	37.5
Primary Education	85	22.6
Secondary Education	30	8.0
Diploma And Above	120	31.9
Mothers Education		
Unable to read and write	180	47.9
Primary Education	103	27.4
High School	37	9.8
Diploma And Above	56	14.9
Fathers Occupation		
Farmer	232	61.7
Civil Servant	106	28.2
Daily Laborer	10	2.7
Others(Pensioner, Not Alive, Religious Father)	28	7.4

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Table 2: substance abuse of Undergraduate Students, Ambo University,2018

Variables	Frequency	Percent (%)
Alcohol Use		
never	269	71.5
yes, but not now	56	14.9
yes currently	51	13.6
Smoking cigarette		
never	350	93.1
yes, currently	14	3.7
yes, but not currently	12	3.2
Chat Chewing		
never	314	83.5
Yes, currently	62	16.5
How spending leisure		
watching films	137	36.4
Walking to cafe	55	14.6
reading books/religious	167	44.4
two of the above	9	2.4

Exposure to Sexually explicit Electronic materials and Sexual Behaviors of the participants: About 82% of the participants responded that they knew the existence of sexually explicit materials such as video, written or audio forms. Internet, i.e. facebook, Youtube and Google were mentioned as the main accessible source of SE materials by about 45% of the study participants. The participants were asked whether they watched sexually explicit videos throughout their life time and in the last 12 months. Although to different extents, about 207(55.1%) reported that they were exposed to sexually explicit videos at least once and, out of this, 108(52%) responded that they watched sexually explicit videos in the last 12 months prior to data collection period. Internet based source (45.4%) was the commonest source of SE materials. The majority of the respondents watched SE electronic materials with their friends. Out of SE video exposed individuals, 142(68.6%) watched by intentionally searching of videos. The participants were asked what motivates them to watch SE materials, and 37.7% of those exposed claimed that they watched for searching sexual information. The participants were asked about their sexual experience. Out of the total participants, 143(38%) were sexually active with the mean age at first sexual coitus being 18.6(SD±2.97). Of those who were ever sexually active, 93.01% engaged in vaginal sex, and 6.99% experienced mixed sex (vaginal and anal or Oral). Concerning the type of explicit sex exposure, nearly 60% were exposed to video portraying vaginal sex followed by a mix of vaginal and oral sex or vaginal and anal sex which accounts for about 29%.

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Table 3: Sexually explicit electronic material exposure status among Ambo University Undergraduate students, 2018

Variables	Frequency	Percent
Do you know the existence SE materials		
Yes	308	81.9
No	68	18.1
From where did you hear		
Friends	92	24.5
internet	169	44.9
TV or radio	37	9.8
Have you ever watched SE videos		
Yes	207	55.1
No	169	44.9
With whom did you watch SE videos		
alone	74	35.7
With Friends	121	58.5
Both of the above	11	5.3
From where did you access SE videos		
Television	18	8.7
renting videos	24	11.6
Internet based social media (fb,whatsapp)	93	44.9
you tube	66	31.9
from my friends PC or Mobile	4	1.9

Table 4: Multivariable Logistic Regressions analysis on association between SE electronic materials exposure and Sexual behaviors, and Factors associated with it among Ambo University Undergraduate students, 2018.

Covariates	SEM exposure status		COR with 95% CI	AOR with 95% CI	P-values
	EVER exposed	**NEVER Exposed**			
Age					
15-19	21	24	0.38(0.162, 0.904)	0.12(0.01, 1.3)	0.08
20-24	154	131	.51(0.263, 1.01)	1.04(0.28,3.84)	0.96
>=25	32	14	1		
Sex					
male	160	98	2.466(1.56, 3.85)	2.2(1.28, 3.77)	0.005
female	47	71	1		
Relationship					
never in any relationship	112	117	0.52(0.34, 0.80)	0.91(.29,2.86)	0.87
In Relationship	95	52	1		
Batch of the student					
1st year	65	67	0.44(0.26,0.74)	0.67(0.37,1.23)	0.60
2nd year	61	65	0.43(0.25, 0.72)	0.43(.24,0.79)	0.006
3rd year and above	81	37	1		
Drunk alcohol					
Never Drunk	117	152	0.145(0.082, 0.258)	0.17(0.09, 0.31)	< .001
Ever drunk	90	17	1		
Sexually active status					
Yes	104	39	3.37(2.15, 5.28)	1.95(1.15, 3.32)	0.014
No	103	130	1		

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History of Multiple sexual partner					
No	57	24	0.693(0.32,1.48)	1.2(0.46, 3.7)	0.6
Yes	48	14	1		
Condom use during sexual intercourse					
Always	31	12	0.955(0.43, 2.12)	0.5(0.16, 0.85)	0.04
Sometimes/never	73	27			
Type of sexual intercourse practiced					
Vaginal Sex	96	37	0.65(0.13, 3.2)	0.49(0.04, 6.5)	0.59
Mixed sex(vaginal and anal or Oral)	8	2	1		

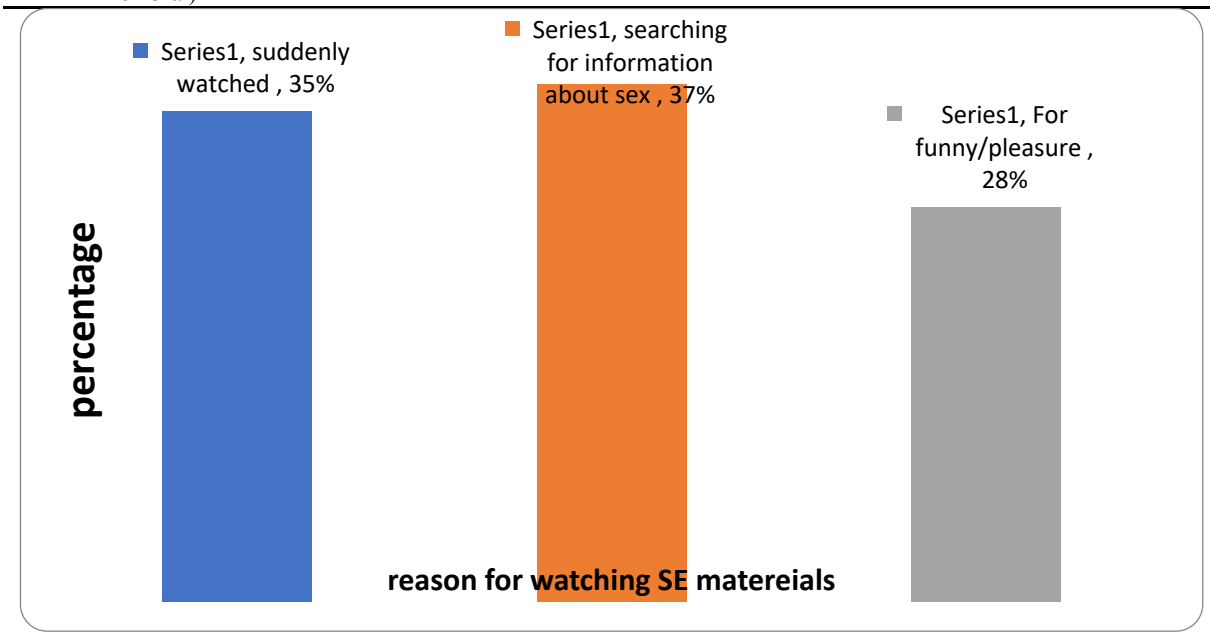

***Figure 1**: Reasons for watching sexually explicit Electronic materials among Ambo University Undergraduate students, 2018*

DISCUSSION

This is the first study conducted to assess sexually explicit electronic material exposure and sexual behavior of university students in Ethiopia. Our result suggested that about 55% of university students were exposed to SE electronic materials at least once in their life, and out of this, about 52% were exposed in the last 12 months prior to data collection period. This finding is lower compared to a study conducted in Hawassa, Southern Nations and Nationalities, Ethiopia, and many other studies in western countries (12,14,15). The difference could be due to differences in study subjects, places, and measurements (i.e. some study measures only internet based exposure; some others measure electronic, textual and audio materials). For instance, the study in Hawassa was conducted among preparatory students, urban residents, where accessibility for electronic material was high. Additionally, in contrast to ours, they also measured all types of sexually explicit materials i.e. video, textual and audio materials. In the case of the university, students come from a mix of urban and rural parts of the country. However, our measurement focused only on electronic based SE materials. This could be the reason for the discrepancy of the results. On the other hand, the finding our study is greater compared to a study done in Southwest Nigeria, among in-school students (37%). The difference could be due to the fact that the Nigerian study measured only exposure over 3 months prior to data collection while the current study measured the life time and in the last twelve month exposure status . cultural differences, differences in intern accessibility can be also the reason for the varaiation of the finding (16).

Out of SE electronic material exposed university students, about 37.7% claimed that searching for sexual information was their top reason. This is a significant

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number and supports the published study conducted among preparatory students in Hawassa, SNNP of Ethiopia (14).

The information which is portrayed on the sexually explicit electronic materials may forward some positive information for observers. However, due to the fact that the majority of the University students are not well matured enough psychologically and physically too, they are easily influenced and face challenges in selecting only the positive information. Due to this, information from SE materials is potentially harmful. Our finding from logistic regression analysis indicated that exposure to SE electronic material is associated with non-condom use and alcohol use during sexual intercourse. As logistic regression revealed, those who watched SE electronic material were 2 times more likely not to use (non-consistently use) condom during sex. Alcohol consumption is a known risky sexual behavior which puts the students at risk for acquiring STI, HIV/AIDS and/or unwanted pregnancy along with its consequences. Alcohol use during sex increases the probability of irresponsible sex specifically not using condom (4,17).

The factors associated with SE electronic material exposure were assessed using multiple logistic regressions by controlling for confounders. Accordingly, sexually active students were nearly 2 times more likely to be exposed to SE electronic materials [95% CI: AOR=1.95 (1.15, 3.32)]. A finding from Nigeria also indicated that frequent exposure to SE material predicts sexual activity and multiple sexual partners, which supports our finding. This is for the fact that the majority of university students lack sufficient awareness about sex and sexual life. For this reason, when they become sexually active, they start to search for information about sex. The other finding of this study, i.e. about 37.7% of SE electronic material exposed university students claimed that they watched for searching about sex information could also substantiate this finding (13,18,8).

Overall, males were more likely to be exposed to SE electronic materials compared to female [95% CI: AOR=2.2 (1.28, 3.77)]. This is similar with the finding from Hawassa, Ethiopia, and the study in Italy among grade 12 and vocational students (2,14,19). Even though we could not get scientifically proved reason for the difference in exposure status between males and females, we believe that the difference is due to socio-cultural influences. In Ethiopia, it is a taboo for a female to clearly engage in such behaviors, and even if they engage they are less likely to report it as they know it is taboo.

The limitation of this study is that we did not included qualitative data which may complement the quantitative finding. In addition, since this study is cross-sectional, the association does not mean causative.

In conclusion, in this study, we tried to assess the magnitude of SE electronic materials exposure and its association with sexual risk behaviors among university students. Our finding revealed that:

- a high numbers of university students were exposed to SE electronic materials;
- the main reason for the exposure was searching information about sex and related issue;
- internet based social media were the commonest source SE electronic materials;
- there is a significant association between exposure to SE electronic materials and risky sexual behaviors;
- exposure to SE electronic materials was higher among males, sexually active students, and senior students compared to their counterparts.

Ambo University should work on filling gaps related to sexual and reproductive health related information. To do this, we highly recommend that there should be continuous awareness creation for students on the area of sexual health, safe sex, STI and HIV related issue. Such intervention should give priority to sexually active students. University students should get guidance on the potential harmful effects of sexually explicit material, and on how to capture only positive information if done so.

In addition, the university's administration should focus on extra-curriculum activities like sport and different clubs (e.g. HIV/AIDS and others) so that students will spend their leisure times there. This will have two advantages: the students will acquire some knowledge about their health and they will substitute the time to watch sexually explicit material as part of their recreation during leisure times. Finally, we suggests that the ICT Directorate should lay restriction on pornographic videos which are accessible on internet.

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